United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Deluge
other names/site number Firefighting Tug Deluge

2. Location

street & number Moored on the Mississippi River ☐ not for publication
city, town New Orleans ☐ vicinity
state Louisiana code LA county Orleans code 071 zip code N/A

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☐ private	☐ building(s)		buildings
☐ public-local	☐ district		sites
☒ public-State	☐ site	1	0 structures
☐ public-Federal	☒ structure		objects
	☐ object		Total

Name of related multiple property listing:
N/A

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Government (firefighting)	Government (firefighting)

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
N/A	foundation N/A walls N/A roof N/A other N/A

Describe present and historic physical appearance.

The firefighting tugboat Deluge, official number 223567, is an operating fireboat of the Port of New Orleans berthed at Algiers, on the Mississippi River opposite the city's famed French Quarter. Owned by the Port of New Orleans Dock Board, a Louisiana State Commission, the vessel has been in constant service since 1923. Re-engined in 1962, Deluge, one of only 10 fireboats greater than 50 years of age left in the United States, is expected to remain in service for a long time to come.

DELUGE AS BUILT AND MODIFIED

As built in 1923, Deluge is 138.8 feet in length overall, with a 29-foot breadth and a 14.6-foot draft. Deluge is registered at 187 net and 372 gross tons, and displaces 370 tons. [1] Heavily reinforced and built in an inner and outer strake style, the hull is double-riveted and constructed entirely of steel, as are the decks and superstructure. Full-bodied midships, Deluge has a straight stem and elliptical stern. The hull is painted black with a white sheerstrake and green bulwarks; the superstructure is painted white with red trim. The deck furniture and equipment is painted green on the main deck and tan on the boat deck; all railings, the mast, and turret tower are painted black.

The vessel as built was equipped with four 450-h.p. multiple stage centrifugal pumps, each with a rated capacity of 2600 gpm, provided 10,400 gallons per minute of water at 225 psi, to four 7-inch monitors, one atop the pilothouse, one mounted aft on the tower, two mounted aft on the boat deck, and to twin manifolds

SEE CONTINUATION SHEET

[x] See continuation sheet

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

☐ nationally ☐ statewide ☐ locally

Applicable National Register Criteria ☐A ☐B ☐C ☐D NHL CRITERIA 1, 4

Criteria Considerations (Exceptions) ☐A ☐B ☐C ☐D ☐E ☐F ☐G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Government	1923-1969	
Architecture (Naval)	1923-1962	1923
Technology	1923-1962	1923
NHL XII-L: Business: Shipping and Transportation		

Cultural Affiliation: N/A

Significant Person:

Architect/Builder: H.E. Cornell; Johnson Ironworks, Drydock & Shipbuilding Co.

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The 1923-built firefighting tug Deluge is the oldest surviving fireboat associated with the Port of New Orleans. The most significant Gulf coast port in the United States since the 1840s, New Orleans is currently the second most important port, in terms of cargo shipped and imported, in all of the United States. Deluge, though her engines and pumps were modernized in 1962, retains integrity of association, design, construction, workmanship, and materials including her original monitors, brasswork, and equipment. Deluge is an excellent example of a major port's large fireboat of the 1920s. Fireboats remain important aspects of port activities, protecting life and property afloat and ashore as an indispensable , work-a-day contribution to the nation's maritime trade and commerce.

The preceding statement of significance is based on the more detailed statements that follow.

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☒ See continuation sheet

9. Major Bibliographical References

PLEASE SEE FOOTNOTES IN CITED IN TEXT.

☐ See continuation sheet

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☐ State historic preservation office
- ☒ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: New Orleans Dock Board

10. Geographical Data

Acreage of property .1

UTM References

	Zone	Easting	Northing
A	15	784245	331750
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

All that area encompassed within the extreme length, beam, and depth of the vessel as she floats at her berth.

☐ See continuation sheet

Boundary Justification

The boundary incorporates the entire area of the vessel.

☐ See continuation sheet

11. Form Prepared By

name/title James P. Delgado, Maritime Historian
organization National Park Service (418) date December 28, 1988
street & number P.O. Box 37127 telephone (202) 343-9528
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with 8 connections for 3-1/2-inch fire hose, and 6 attachments for 3-1/2-inch rail nozzles on the main deck, all of which she retains. [2] In November 1962 the vessel was re-engined and new pumps installed. The 1962 pumps, which Deluge retains, are twin Worthington 8LN 21 pumps, each with a rated capacity of 5000 gallons per minute at 200 psi. The pumps are driven by two 545-hp (for a total of 1090-hp) Elliot double armature motors at 1500 revolutions per minute. [3] The main suction is a 16-inch line that runs port and starboard and then up to the deck above in major lines that connect to the manifolds, tower, and the various monitors. A foam pump was also installed; Deluge carries powder sufficient to produce 20,000 gallons of foam at 600 g.p.m.

The vessel was originally propelled by a single 10-1/2-inch screw driven by a single vertical inverted direct action compound 1200-hp marine steam engine, manufactured by Hooven, Owens, and Rentschler of Hamilton, Ohio, which developed a maximum speed of 12-1/2 to 13 knots. Steam was provided by two Babcock and Wilcox water tube boilers with Cuyama-type burners. The vessel burned oil, which was kept in four fuel tanks which held 75 tons of fuel. The fireboat additionally received electric power from 10 KW, 110-volt, direct current 91 amp. generators. [4] In November 1962 Deluge was converted to diesel electric operation. The existing shaft and screw were connected to a single Allis-Chambers, USN Contract 1950-hp diesel engine. The original pump engines installed in 1962 were twin GM-16-278A Diesel-electric units (1700-hp each); these remain along with two 1100-KW, 415-v. direct current electric generators. Deluge now has an operating speed of 15 knots. There are three fuel tanks in the vessel carrying 18,000 gallons of fuel. [5]

PRESENT CONDITION AND APPEARANCE OF DELUGE

The vessel has a single riveted steel deck with a deckhouse that mounts an elevated pilothouse, and a riveted steel trunk that leads into the engineroom. There is a single steel pole radar mast with running lights immediately aft of the pilothouse, and a single turret tower aft of the engineroom trunk that mounts a single monitor. The deckhouse, pilothouse, trunk, and turret tower are riveted steel. All original deck equipment remains in place; this includes towing bitts fore and aft, a single davit at the stem, and geared electric-driven capstans fore and aft. The capstans each have original brass capstan plates engraved with the vessel's name, date of construction, and port. There is an

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access trunk at the forecastle head that leads to the forecastle below, and a hose reel mounted on a barbette. Moving aft, past the deckhouse, the boat deck above extends beyond the aft end of the deckhouse to form platforms for two of the 7-inch monitors, port and starboard. The supply line for each monitor runs up from the twin manifolds on the main deck. Aft of the manifolds is the engineroom trunk; on the port side is the accessway into the engineroom and a wooden bench. On the starboard side is a life-vest locker. At the stern, immediately aft of the engineroom trunk, are the turret tower, another capstan and towing bitt, and three hose reels mounted on barbettes. Deluge originally carried 1,500 feet of 3-1/2-inch hose and 2000 feet of 2-1/2-inch hose; she now carries 100 feet of 3-1/2; 1500 feet of 2-1/2; and 1000 feet of 1-1/2-inch fire hose. [6] The flagstaff was originally aft at the stern; it is now welded to the tower.

Deluge's pilothouse and boat deck remain largely unmodified. The original interior oak tongue-in-groove panelling in the pilothouse, brass instruments including the now inoperative speaking tubes, and a bunk and chart table along the aft bulkhead were retained. The wheel and binnacle were removed in 1962, placed in storage, and a modern console was installed along with a hydraulic steering system. Six single hung, drop sash windows line the curving pilothouse; two wood doors with wooden screen doors provide access aft port and starboard. Atop the pilothouse is a single 7-inch tip monitor; mounted on the front of the pilothouse is the fireboat's unengraved brass bell. Moving aft from the pilothouse on to the boat deck is the radar mast, the stack, life-vest lockers, a single boat stowed to port of the stack, and the two boat deck 7-inch monitors. Originally Deluge had twin stacks; the blanked apertures for the original stacks are visible on the boat deck; the present, 1962-installed stack partially obscures the welded seam of the aft stack's aperture. A ladder from the boat deck near the pilothouse and one aft near the port monitor lead to the main deck.

The interior of the deckhouse is also largely unmodified; immediately forward is the mess and galley; the original oil-burning range has been replaced with an electric range. A companionway separates the galley from the mess and runs port and starboard. Inside the mess to starboard is a door that leads to a companionway that also connects to the main deck and runs below the forecastle. The forecastle, which is wood panelled with oak tongue-in groove, has bunks for eight crew members, a walk-in

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closet, a stateroom for the mate, and lockers. A hatch runs below into the hold, where the two foam and one fresh water tanks are secured and where spare equipment and line are stowed. A watertight bulkhead forward separates the forecastle from the forepeak. Aft of the galley and mess are the stairways that lead up to the boat deck and pilothouse and the generator room; attached to the generator room bulkhead is the brass builder's plate, which also lists the members of the New Orleans Dock Board in 1923, when the vessel was launched. Aft of the generator room are a tile-lined head and shower to starboard; storage lockers occupy the same space on the port side.

Deluge is maintained in good condition by the Port of New Orleans and her crew, whose pride in the vessel is obvious. The vessel is regularly hauled and maintained. Damage to the vessel has occurred from time to time given the hazardous nature of a fireboat's duty; this damage has been repaired promptly, including a holed bow, flooded engineroom, and engine damage. Leaking water from the pilothouse above has permeated the galley; the ceiling is damaged; removal of the pilothouse, deck repairs, galley renovation, and reinstallation of the pilothouse, as well as another haul-out and re-painting, are scheduled for the future and will bring Deluge back into excellent condition.

NOTES

1
U.S. Coast Guard, Certificate of Documentation, Deluge, Official No. 223567, Port of New Orleans, Louisiana. Also see American Bureau of Shipping, Certificate of Classification, "Deluge," New York, January 14, 1924. Original manuscripts on file, Port of New Orleans, New Orleans, Louisiana.

2
Fact Sheet, "Tug `Deluge'," Board of Commissioners of the Port of New Orleans, August 4, 1953.

3
Fact Sheet, "Fireboat `Deluge,'" Board of Commissioners of the Port of New Orleans, August 26, 1963.

4
American Bureau of Shipping, Certificate of Classification of Machinery, "Deluge," New York, January 14, 1924. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

SEE CONTINUATION SHEET

5
Fact Sheet, "Deluge," August 26, 1963; also see "Marine Equipment," Board of Commissioners of the Port of New Orleans," June 30, 1963. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

6
Ibid.

THE DEVELOPMENT OF THE AMERICAN FIREBOAT

The concept of using vessels to fight fires on other vessels and along a port's waterfront dates to the mid-18th century and, the 19th century development of large-volume marine steam pumps to generate sufficient pressure for effective firefighting. Harbor tugs and towboats, the most common steam-powered vessel type in any given harbor, became the optimum fire-fighting vessels. Very few vessels were designed and built as fireboats; rather, many tugs were fitted with pumps and monitors for auxiliary fireboat use. The need for full-time fireboats and for maximum capability for combating serious blazes on wooden ships and the wooden waterfronts of the late 19th and early 20th century compelled many fire departments in port cities to design and construct their own fireboats.

The origins of fireboats are reflected in the general form and design that distinguishes American fireboats through the present day. In 1927, typical fireboats in the United States were described as having the same general dimensions and hull lines of those of a harbor towboat. "The fireboat is a self-propelling hull of towboat form containing powerful pumps drawing from surrounding water and discharging streams of water through strategically mounted monitors." It was also noted that diesel engines had practically replaced steam by 1927 for both propulsion and pumping, with "diesel electric drive being particularly suitable for the work." [1] Another system widely used was the gasoline engine.

While various communities designed their fireboats individually and without any known nationally accepted plan, the dictates of function determined the form so closely that a national type was developed. The basic form remains unchanged with few exceptions save more modern pumping and delivery systems, a shift to diesel power, and smaller, more maneuverable vessels.

CONSTRUCTION AND CAREER OF DELUGE

New Orleans is currently the second-ranked U.S. Port "in value of total foreign and domestic waterborne tonnage." The port of New Orleans sprang into national prominence in the first decades following the Louisiana Purchase. By the mid-19th century, packet service between New York and New Orleans was the most important connection in the Southern packet trade, and "as the

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steamboats on the Mississippi and its tributaries opened up a vast hinterland, New Orleans shot rapidly ahead in the volume of traffic handled along its levees....by the 'forties it exceeded even New York for a while in the volume of its exports." [2] As the principal port on the Mississippi, New Orleans consistently remained one of the United States' most significant ports throughout the 19th and 20th centuries. By 1924, the Corps of Engineers and the U.S. Shipping Board noted that the first decades of the 20th century had witnessed phenomenal growth; "The business of the port has increased quite steadily thoughout this period. In 1912 the commerce amounted to 5,059,830 tons, increasing to 9,087,084 tons in 1918, 13,956,399 tons in 1920, and 15,123,006 tons in 1921." [3]

It was during this period of growth after the First World War that the Port of New Orleans Dock Board authorized the construction of a new, modern fireboat. The previous fireboat--the 1881-built iron-hulled fire tug Samson, a 108-foot long, 22-foot beam, 560-h.p. vessel mounting a single monitor--was not sufficient to meet the needs of a harbor that had tripled in tonnage in a 10-year period. [4] A large, powerful fireboat was designed by New Orleans naval architect H.E. Cornell. Built by the Johnson Iron Works, Drydock, and Shipbuilding Company of New Orleans, the new fireboat was launched at 3 o'clock on the afternoon of Saturday, May 12, 1923. Christened Deluge by Lynne Hecht, daughter of the New Orleans Dock Board's President, the fireboat was readied for service:

> The Deluge when completed will represent an investment of approximately $300,000 and will be the largest and most powerful fire tug in the country. It will throw a stream of water 350 feet and its pumps can handle 10,000 gallons of water a minute, its capacity equalling that of twelve modern fire engines. The Samson, the Dock Board's present fire tug, will be continued in operation and later on probably will be transferred to the Industrial Canal. As the riverfront facilities develop, it is expected that another fire tug similar to the Deluge will be ordered by the Dock Board to protect its property and shipping in the port. [5]

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Deluge entered into service during the summer of 1923; Samson was later retired and replaced by another vessel, a 94-foot, 805-h.p. World War II surplus tug named Louis Bourgeois II, which remains in service. [6]

Deluge, in addition to responding to fires along the waterfront and aboard vessels at the Port, also was authorized, at the captain's discretion, to respond to any emergencies "requiring assistance in saving human life or property," and to serve as a tug "for moving floating equipment owned by this Board...and for other miscellaneous services, such as the washing of the river banks by propeller or hose lines...." [7] Other duties have included inspection and goodwill tours after the sale of the Dock Board inspection vessel Good Neighbor in 1966. [8] A typical year's operation can be seen in the records of the period between October 1, 1954, and September 30, 1955. Deluge performed 310 towing jobs, 33 jobs "washing out silt" from beneath docks, four jobs "digging with wheel" (propeller), and 44 emergency responses, including drifting barges, escorting a leaking oil barge, extinguishing burning objects in the river, revetment and levee fires, and five vessel fires, including burning oil barges, a yacht, a dredge, and two tugs. [9] A Deluge crewmember, commenting in 1951 on his service with the vessel, noted "We're not just a fireboat....We're the odd job vessel and general handyman for the whole port." [10]

Deluge maintains her role of fireboat well; in 1958 it was noted she fought an average of 40 fires a year. These included a two-day fire in March, 1930, when the freighter Scantic burned, killing 10 of the freighter's crew, pumping a quarter of a million gallons of water from the river to help fire companies ashore extinguish a school fire in Algiers in March 1958, and a fire on a waterside dock when a man doing carburetor repairs set his engine on fire in February 1957. [11] Typical of Deluge's hazardous duty was on Christmas Eve, 1950, when a crude oil laden barge being towed upriver broke loose and "smashed into the Standard Oil tanker Baltimore, also carrying oil, steaming downriver. Oil that had spilled out over the muddy Mississippi was ablaze and gave the men that impression about the entire river being on fire." Arriving at the scene at 9:40 p.m., Deluge opened up with all monitors. "Water, tons of it, poured into the barge and into the blazing oil that surrounded it until the barge was almost sunk under the weight of the water and the flames were extinguished." Hailing a nearby tug to tow the charred barge to

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shore, Deluge then quickly ran downriver to the burning Baltimore, still spewing burning oil from a gaping hole in the bow. Manuevering athwart the burning tanker, Deluge began to pour water onto and into Baltimore. For over four hours the battle raged, the danger of the tanker exploding seemingly imminent; "But the Deluge clung firmly to the Baltimore's side. Berthed there, snug against the tanker, it was hot, boiling hot. Capt. Markay ordered a spray turned on over all of the Deluge to keep it and its crew from being scorched" until the fire was extinguished at 2:25 a.m. Christmas Day. [12]

Other notable fires combatted by Deluge were the African Star and Union Faith fires in 1968 and 1969. African Star caught fire in March 1968 and burned for four days, killing 16 men. As burning oil spread over the river, Deluge again went into action, spraying the hull to cool it down, cutting holes in the sides and flooding the burning interior, and in doing so prevented serious damage to hull and cargo, earning a commendation from the Coast Guard's Captain of the Port for "their courage and efficiency under dangerous and trying circumstances." [13] In a near repeat of the Baltimore fire of 1950, Deluge and Louis Bourgeois responded to a fire in the early evening hours of Sunday, April 6, 1969. An oil-laden barge struck the tanker Union Faith, setting both vessels on fire. Deluge managed to knock the barge fire down and proceeded to Union Faith, "which was ablaze stem to stern and from main deck to top of superstructure," and five cargo holds open and flames shooting up from them into the sky. Deluge poured water into the burning tanker until the danger of capsizing was imminent; at 12:30 a.m. on the morning of April 7, the fireboat withdrew, and little more than an hour later, Union Faith sank. The heroic actions of the fireboat crews in saving the port from "a holocaust unparalleled in its history" was recognized by the Dock Board by special resolution. [14]

The importance of Deluge was underscored by the decision to modernize her propulsion systems in 1962. The cost of operating the steamer was proving prohibitive in terms of crew costs and fuel, and New Orleans marine engineers A.A. Grant were asked early in 1961 to prepare a report on conversion to Diesel power. The Grant engineers found Deluge in "unusually good condition," and "even through 38 years old...still one of the most powerful fire tugs in the country, both in regards to gallons per minute pumped and horsepower on the propeller shaft." The costs of conversion would run to one-third of the replacement costs. [15]

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Accordingly, a contract was let with New Orleans' Avondale Shipyards for the $300,000 job. The work was completed in the fall of 1962, and on November 22, 1962, Deluge went back into service. [16] She has, with the exception of minor repairs and maintenance, remained in active service since then. Deluge's crew, some veterans of service in her for considerable periods, keep their historic fireboat operating in the best traditions of the maritime fire service and of the crews who served her for the past 65 years of her career.

NOTES

1
A.C. Hardy, American Ship Types: A Review of the Work, Characteristics, and Construction of Ship Types Peculiar to the Waters of the North American Continent, (New York: D. Van Nostrand, 1927), p. 166.

2
Board of Commissioners of the Port of New Orleans, Port of New Orleans Annual Directory, 1988 (New Orleans: Board of Port Commissioners, 1988) p. 9; and Robert Greenhalgh Albion, Square-Riggers on Schedule: The New York Sailing Packets to England, France, and the Cotton Ports (Princeton, New Jersey: Princeton University Press, 1938), pp. 56-57.

3
U.S. Board of Engineers for Rivers and Harbors, War Department, and Bureau of Research, United States Shipping Board, Port Series No. 5: The Port of New Orleans, Louisiana (Washington, D.C.: Government Printing Office, 1924) p. 190.

4
Ibid., p. 27; also see New Orleans Times-Picayune, February 25, 1934. Built in 1881 in Camden, N.J., Sampson was a towboat converted to fireboat use around 1905. See U.S. Department of Commerce, Merchant Vessels of the United States (Washington, D.C.: Government Printing Office, 1931) pp. 160-161.

5
New Orleans Times-Picayune, May 13, 1923.

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6
Memorandum, Joseph S. Cannatella, Jr., Superintendent, Harbor Police Department, to Peggy Culligan, Public Relations Department, Board of Commissioners of the Port of New Orleans, August 25, 1983. According to Deluge's first certificate, steam trials were held on December 27, 1923; see American Bureau of Shipping, "Certificate of Classification of Machinery, Deluge," New York, January 14, 1924. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

7
"Regulations Governing Services of Fire Tug Deluge," Board of Commissioners of the Port of New Orleans," February 1, 1956, original manuscript on file, Port of New Orleans, New Orleans, Louisiana. The basic duties of Deluge remain unchanged.

8
Letter, Harvey H. Loumiet, Jr., Vice President, Board of Port Commissioners, to Michael J. Molony, Jr., President, Chamber of Commerce of the New Orleans Area, New Orleans, Louisiana, November 12, 1971. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

9
"Excerpts from Log Book of Fireboat Deluge, Port of New Orleans, October 1, 1954 Through September 30, 1955," Engineering Department, Board of Commissioners of the Port of New Orleans, October 25, 1955. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

10
Orin Kaye, Jr., "Fighting Fire on Water," New Orleans Times-Picayune, March 11, 1951.

11
"Muscles of Water to Fight Fire," New Orleans Times-Picayune, August 31, 1958.

12
Kaye, "Fighting Fire on Water."

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13
New Orleans Times-Picayune, August 11, 1968; also see E.A. Poulter, U.S. Coast Guard, to W.J. Amoss, Director, Port of New Orleans, March 21, 1968, New Orleans, Louisiana. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

14
Report on " M/V Union Faith/Barge Fire, April 6,7, 1969." Port of New Orleans Engineering Office, April 10, 1969; also see Certification of Board resolution, Board of Commissioners of the Port of New Orleans, April 11, 1969. Original manuscripts on file, Port of New Orleans, New Orleans, Louisiana.

15
A.A. Grant, Engineers, "Report on Proposed Conversion of Fire Tug `Deluge' From Steam to Diesel Power," March 2, 1961. Original manuscript on file, Port of New Orleans, New Orleans, Louisiana.

16
New Orleans Times-Picayune, November 21 and 22, 1962.